

(19) World Intellectual Property  
Organization  
International Bureau



542223

(43) International Publication Date  
17 March 2005 (17.03.2005)

PCT

(10) International Publication Number  
**WO 2005/024327 A1**

(51) International Patent Classification<sup>7</sup>: **F26B 11/04**,  
23/10

(21) International Application Number:  
PCT/FI2004/000526

(22) International Filing Date:  
10 September 2004 (10.09.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
20031304 11 September 2003 (11.09.2003) FI

(71) Applicant (for all designated States except US):  
**KONEPAJA KOPAR OY** [FI/FI]; Sepänkatu 2,  
FIN-39700 Parkano (FI).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **TIITU, Olli** [FI/FI];  
Einonkuja 5, FIN-39700 Parkano (FI).

(74) Agent: **KOLSTER OY AB**; Iso Roobertinkatu 23, P.O.  
Box 148, FIN-00121 Helsinki (FI).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,

MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

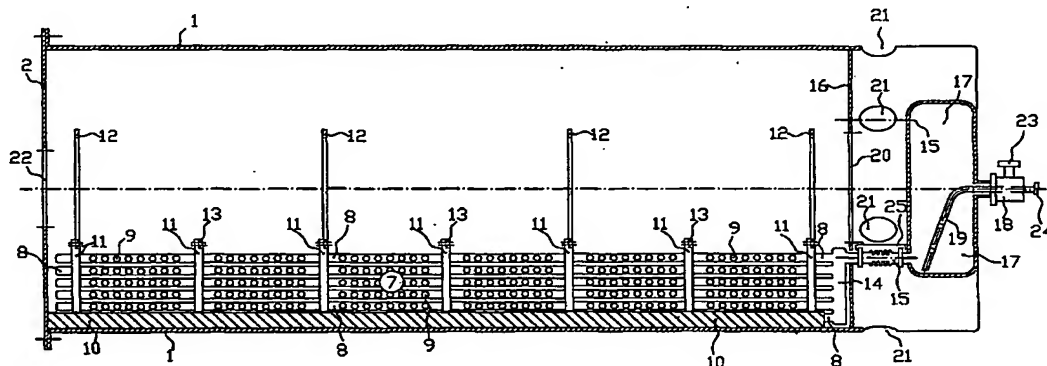
(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,  
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG).

**Declarations under Rule 4.17:**

— as to applicant's entitlement to apply for and be granted  
a patent (Rule 4.17(ii)) for the following designations AE,  
AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ,  
CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE,  
EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS,  
JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,  
MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM,  
PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ,  
TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM,  
ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA,  
SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ,  
BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE,  
BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,  
IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent  
(BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,  
SN, TD, TG)

[Continued on next page]

(54) Title: A ROTATING STEAM DRYING APPARATUS



(57) Abstract: A drying apparatus comprises a cylindrical rotatable drum (1), the inside of which is provided with a steam pipe system consisting of heat transfer elements (7), to be rotated with the drum. The heat transfer elements (7) are detachable from and mountable on the drum (1). Material to be dried is fed to a first end of the drying apparatus, the material being arranged to be discharged through a second end of the drying apparatus. The heat transfer element (7) is formed as a uniform packet of several longitudinal pipes (8) and connecting pipes (9) between them in such a way that the structure of the heat transfer element is formed self-supporting and that this self-supporting packet is attached to the drum (1) frame with fastening that allows heat expansion.

WO 2005/024327 A1



— of inventorship (Rule 4.17(iv)) for US only

**Published:**

— with international search report

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*